

PATENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

CODE	DATE	NTD
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Applicant's or agent's file reference 101377-1 WO	FOR FURTHER ACTION see Form PCT/ISA/220 as well as, where applicable, item 5 below.	
International application No. PCT/SE 2005/000156	International filing date (day/month/year) 7 February 2005	(Earliest) Priority Date (day/month/year) 10 February 2004
Applicant ASTRAZENECA AB et al		

This international search report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This international search report consists of a total of 6 sheets.

☐ It is also accompanied by a copy of each prior art document cited in this report.

1. Basis of the report

a. With regard to the language, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ The international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

b. ☐ With regard to any nucleotide and/or amino acid sequence disclosed in the international application, see Box No. I.

2. ☐ Certain claims were found unsearchable (see Box No. II)

3. ☐ Unity of invention is lacking (see Box No. III)

4. With regard to the title,

☐ the text is approved as submitted by the applicant.

☒ the text has been established by this Authority to read as follows:

Novel quinoline-carboxamides as JAK3 kinase modulators

5. With regard to the abstract,

☐ the text is approved as submitted by the applicant.

☒ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box No. IV. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. With regard to the drawings,

a. the figure of the drawings to be published with the abstract is Figure No. _____

☐ as suggested by the applicant.

☐ as selected by this Authority, because the applicant failed to suggest a figure.

☐ as selected by this Authority, because this figure better characterizes the invention.

b. ☒ none of the figures is to be published with the abstract.

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Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☒ Claims Nos.: 21-22
because they relate to subject matter not required to be searched by this Authority, namely:

Claims 21-22 relate to a method of treatment of the human or animal body by surgery or by therapy, as well as diagnostic methods /Rule 39.1(iv). Nevertheless, a search has been executed for these claims. The search has been based on the alleged effects of the compounds.
2. ☒ Claims Nos.: 1-3
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:

Present claims 1-3 relate to an extremely large number of possible compounds. In fact, the claim contains so many possible permutations and provisos that a lack of clarity and conciseness within the meaning of Article 6 PCT arise to such an extent as to render a meaningful search of the claims impossible.
.../
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

1. ☐ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

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Box II.2

Consequently, the search has been carried out for those parts of the application which appear to be clear and concise, namely those compounds recited in the examples 1-274

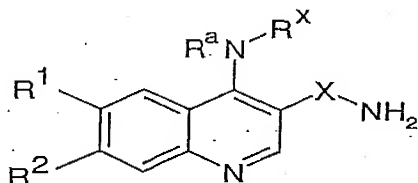
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Box No. IV Text of the abstract (Continuation of item 5 of the first sheet)

The present invention relates to novel compounds which are JAK3 Kinase inhibitors, methods for their preparation and pharmaceutical compositions comprising them.

A compound of formula (I)



(I)

or a pharmaceutically acceptable salt or solvate thereof, wherein
X is -CHOH or -C=O;

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A. CLASSIFICATION OF SUBJECT MATTER

IPC7: C07D 215/54, C07D 401/12, C07D 413/12, C07D 417/12, A61K 31/47, A61P 37/00, A61P 11/06

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC7: C07D, A61K, A61P

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

SE,DK,FI,NO classes as above

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

EPO-INTERNAL, WPI DATA, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	EP 0480052 A1 (OTSUKA PHARMACEUTICAL CO.), 15 April 1992 (15.04.1992), claims 1-18 --	1-23
X	WO 02092571 A1 (ASTRAZENECA AB), 21 November 2002 (21.11.2002), claims 1-16 --	1-23
X	EP 0259174 A1 (SMITH KLINE & FRENCH LABORATORIES LIMITED), 9 March 1988 (09.03.1988), claims 1-7 --	1-23
X	EP 0346208 A1 (SANOFI), 13 December 1989 (13.12.1989), claims 1-20 --	1-23

☒ Further documents are listed in the continuation of Box C.☒ See patent family annex.

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance: the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance: the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search

18 May 2005

Date of mailing of the international search report

24 -05- 2005

Name and mailing address of the ISA/

Swedish Patent Office

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C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	EP 0336544 A1 (SMITHKLINE BECKMAN INTERCREDIT B.V.), 11 October 1989 (11.10.1989), Formula I --	1-23
A	US 3362954 A (ALEXANDER R. SURREY ET AL), 9 January 1968 (09.01.1968), claims 1-21 --	1-23
A	WO 9843960 A1 (AMERICAN CYANAMID COMPANY), 8 October 1998 (08.10.1998), Formula I -- -----	1-23

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Information on patent family members

01/04/2005

International application No.

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				AU	7548091	A	21/10/1991
				DE	69128682	D,T	04/06/1998
				DK	480052	T	11/05/1998
				ES	2112272	T	01/04/1998
				JP	4039508	U	03/04/1992
				JP	4211661	A	03/08/1992
				JP	6041687	Y	02/11/1994
				US	5215999	A	01/06/1993
				WO	9114677	A	03/10/1991
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				AU	8273901	A	13/02/2002
				BG	108325	A	30/11/2004
				BR	0209431	A	03/08/2004
				CA	2446717	A	21/11/2002
				CN	1507434	A	23/06/2004
				CZ	20033034	A	16/06/2004
				DE	60107703	D	00/00/0000
				EE	200300544	A	16/02/2004
				EP	1320706	A,B	25/06/2003
				EP	1387830	A	11/02/2004
				HU	0401339	A	28/12/2004
				IL	158517	D	00/00/0000
				JP	2004505229	T	19/02/2004
				JP	2004533452	T	04/11/2004
				MX	PA03010207	A	10/03/2004
				NO	20030444	A	28/01/2003
				NO	20034992	D	00/00/0000
				NZ	529302	A	27/08/2004
				SE	0101675	D	00/00/0000
				SK	13712003	A	05/10/2004
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				AT	73776	T	15/04/1992
				AU	598299	B	21/06/1990
				AU	7874187	A	24/03/1988
				CA	1308106	A,C	29/09/1992
				CN	1019802	B	30/12/1992
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				DE	3777505	A	23/04/1992
				DK	159308	B,C	01/10/1990
				DK	245888	A	05/05/1988
				EG	18408	A	28/02/1993
				ES	2033316	T	16/03/1993
				FI	88919	B,C	15/04/1993
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				IE	61104	B	05/10/1994
				IE	872370	L	05/03/1988
				IL	83691	A	18/08/1993
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				NO	172388	B,C	05/04/1993
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				NZ	221663	A	29/08/1989
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				JP	2032058	A	01/02/1990
				JP	2766672	B	18/06/1998
				LV	5799	A,B	20/02/1997
				NZ	229413	A	27/11/1990
				PT	90748	A,B	29/12/1989
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				ZA	8904250	A	27/02/1991
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				JP	1261388	A	18/10/1989
				PT	89792	A,B	04/10/1989
				US	5006535	A	09/04/1991
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				AU	750906	B	01/08/2002
				AU	6877798	A	22/10/1998
				BR	9808478	A	30/09/2003
				CA	2285241	A	08/10/1998
				CN	1121391	B,C	17/09/2003
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				SE	0973746	T3	
				ES	2209124	T	16/06/2004
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				HU	0002112	A	28/09/2000
				IL	132192	D	00/00/0000
				JP	2001519788	T	23/10/2001
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				NZ	337782	A	27/04/2001
				PL	335999	A	05/06/2000
				RU	2202551	C	20/04/2003
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				TR	9902946	T	00/00/0000
				ZA	9802771	A	01/10/1999
